

TITLE: GIGABIT ETHERNET TRANSCEIVER WITH
ANALOG FRONT END
INVENTOR: BEHZAD
APPLICATION NO.: UNASSIGNED,
CONF. NO. ; DOCKET NO. 13432US05
ATTORNEY: JAW, PHONE: 312-775-8000

1/28

FIG. 1A

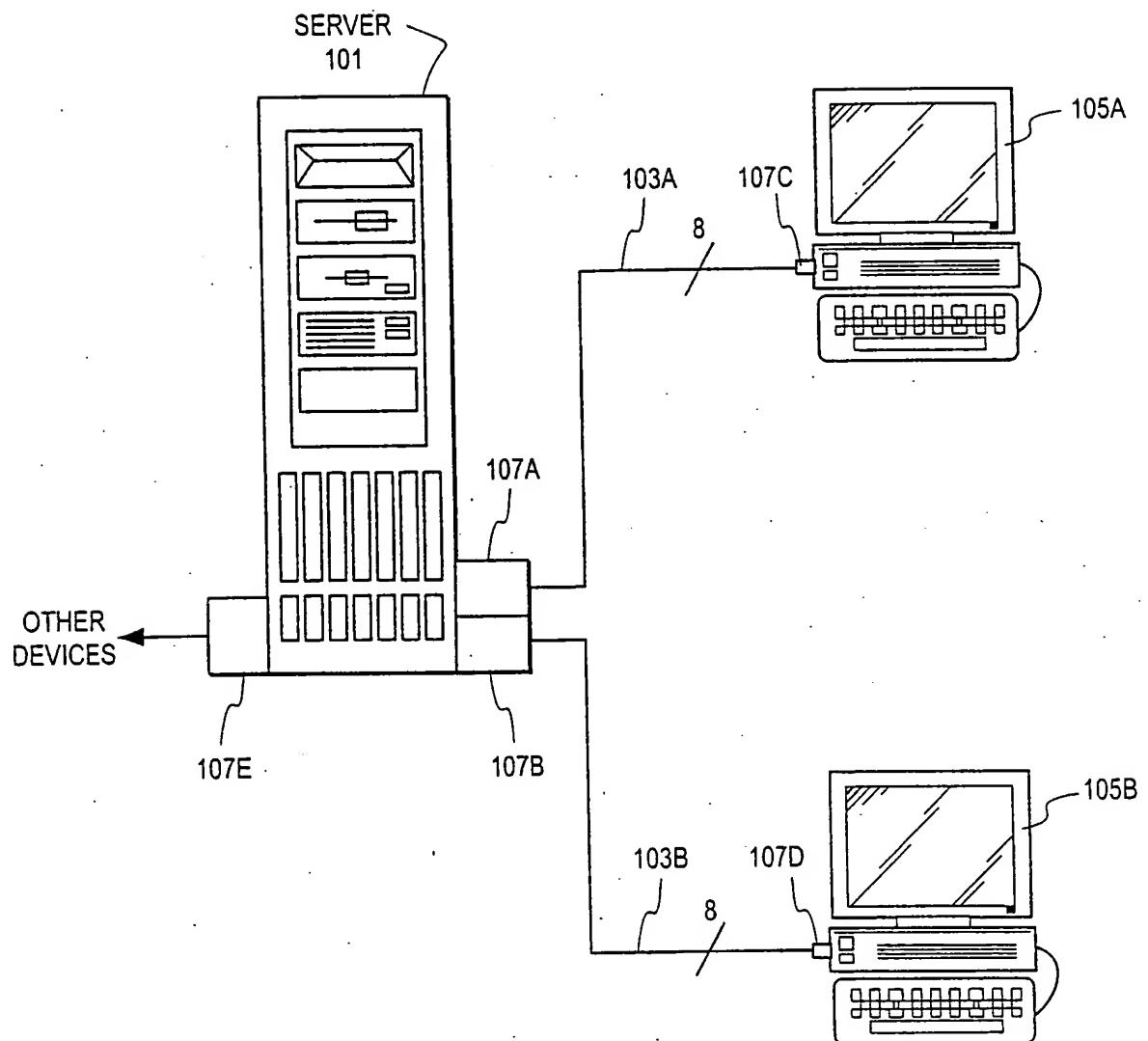
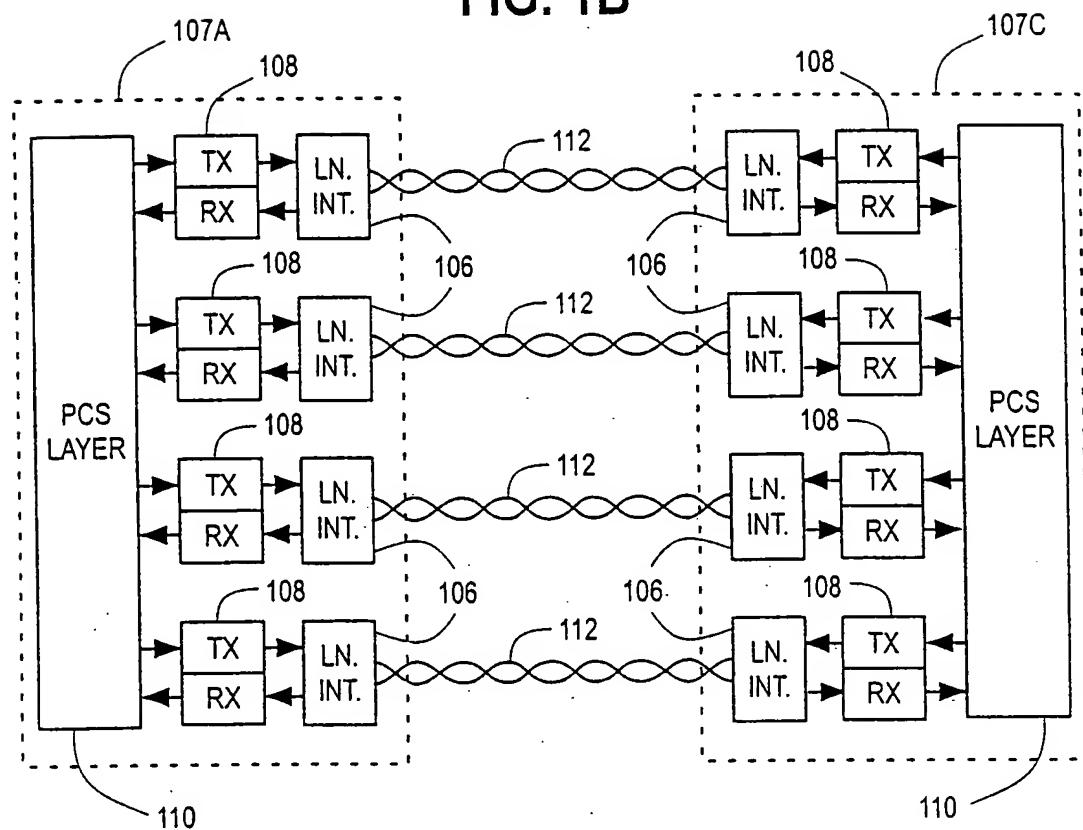
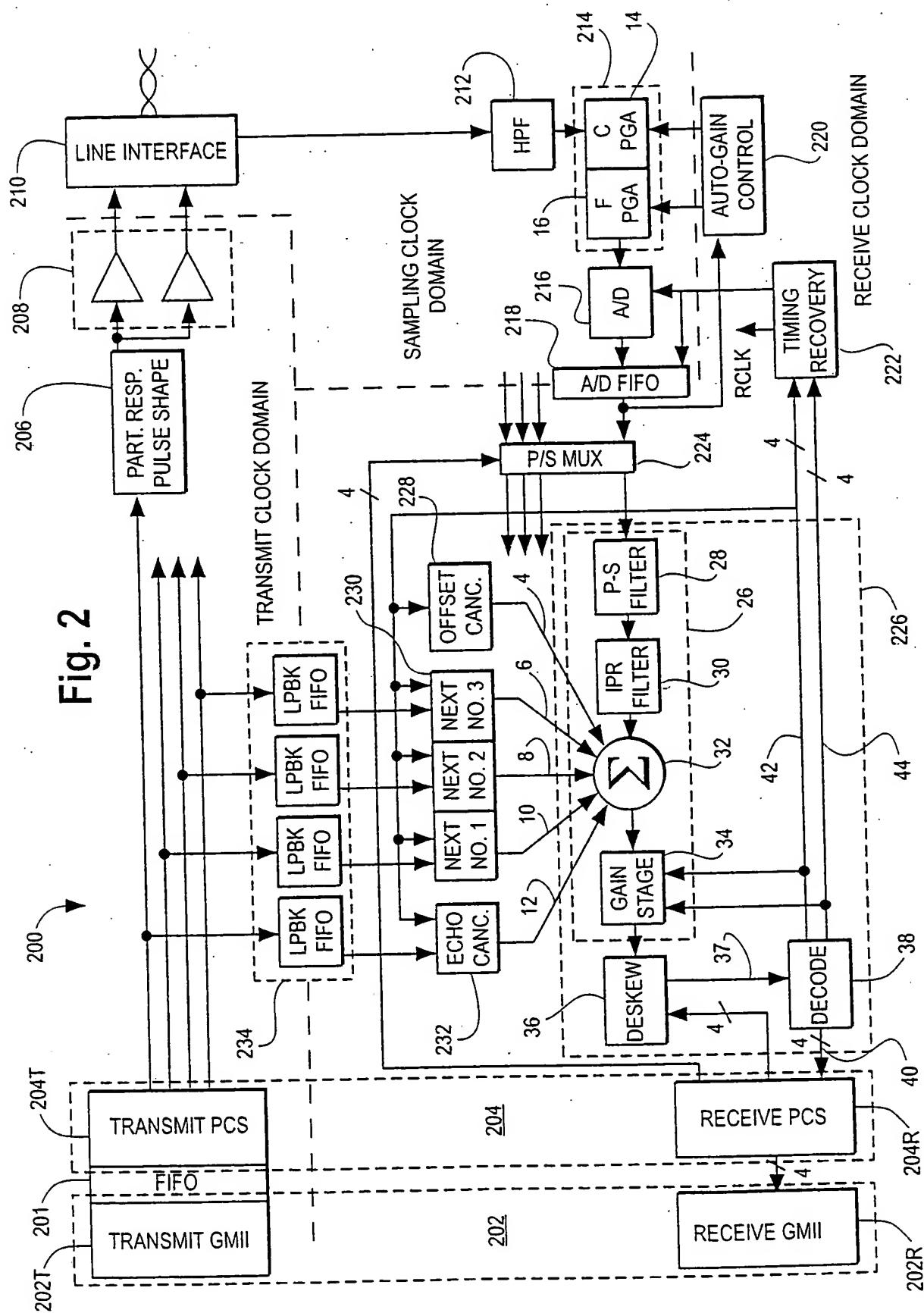


FIG. 1B





4/28

FIG. 3

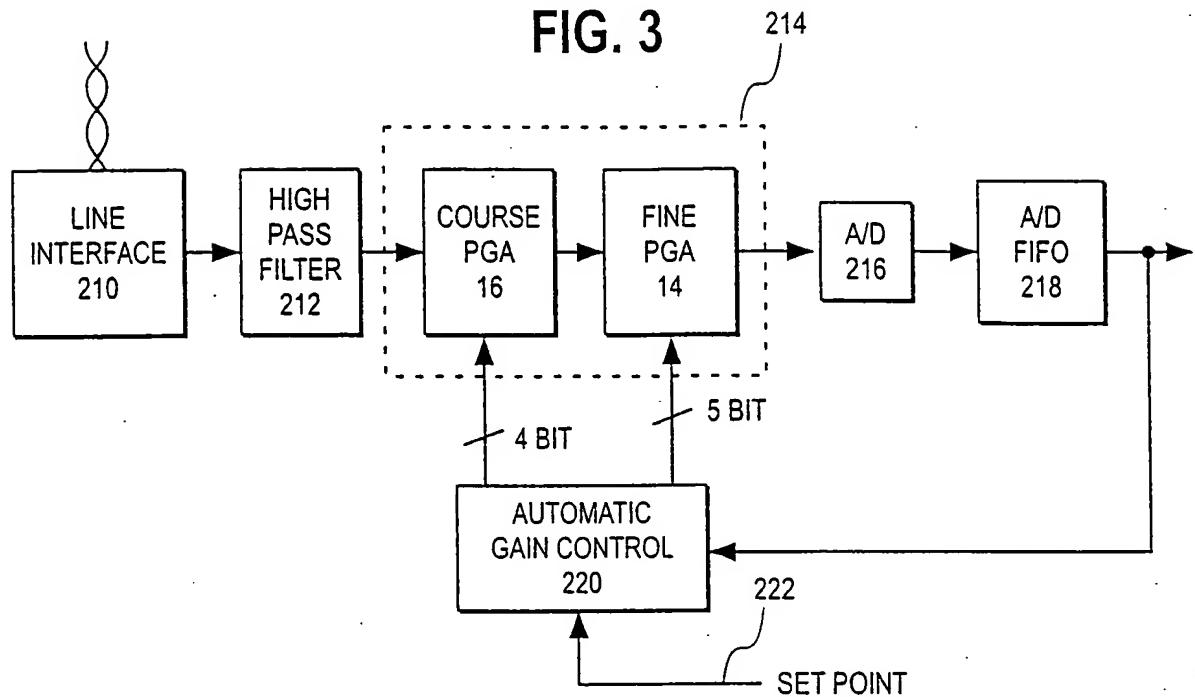
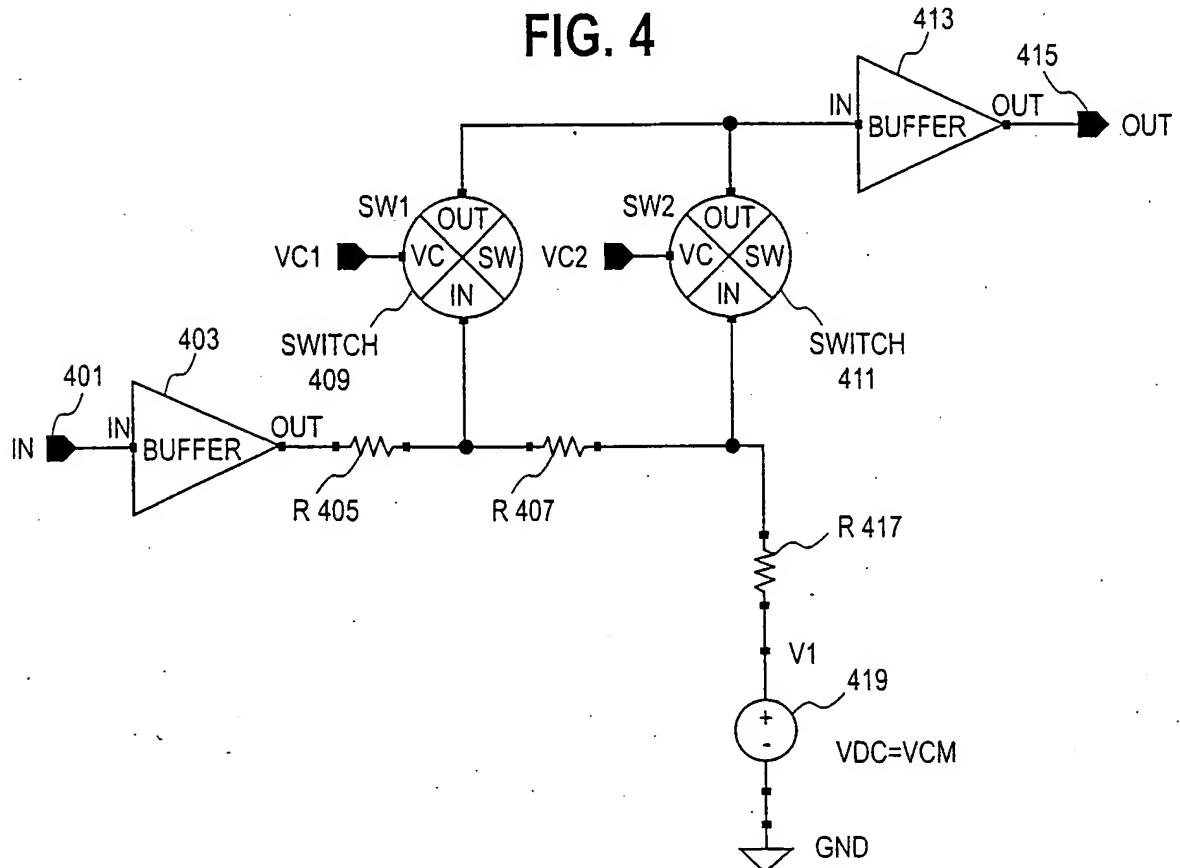


FIG. 4



5/28

FIG. 5

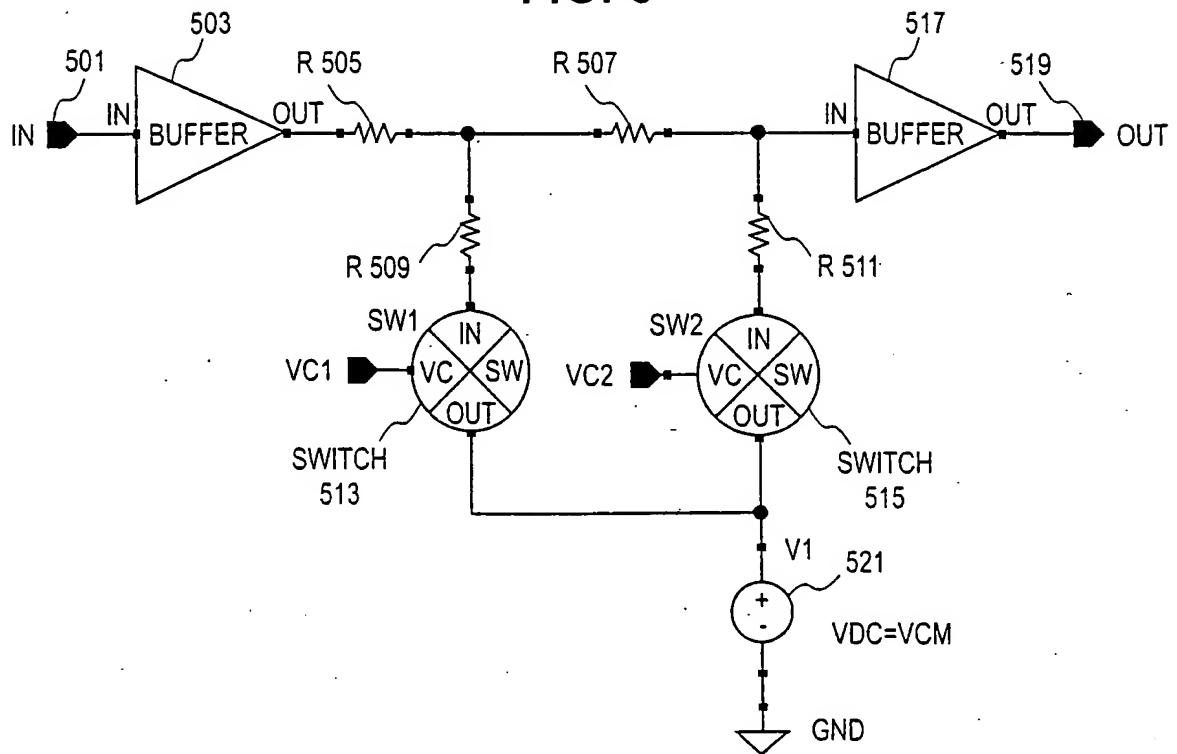


FIG. 6

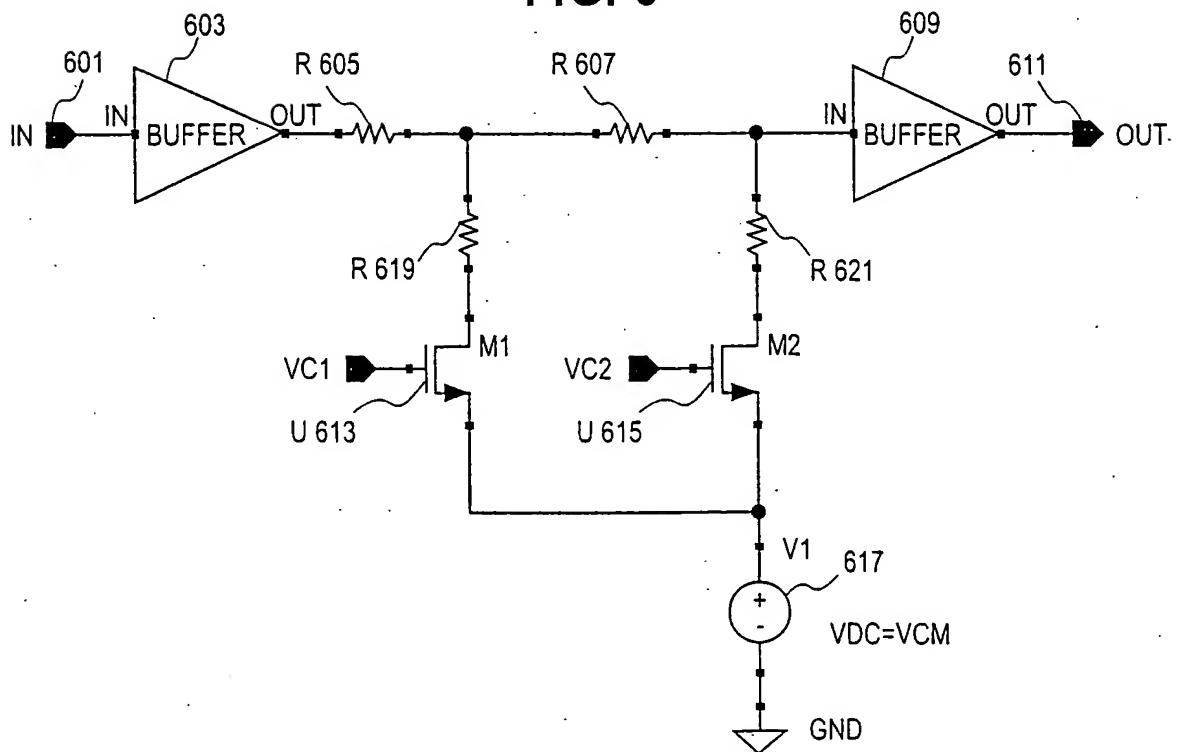


FIG. 7

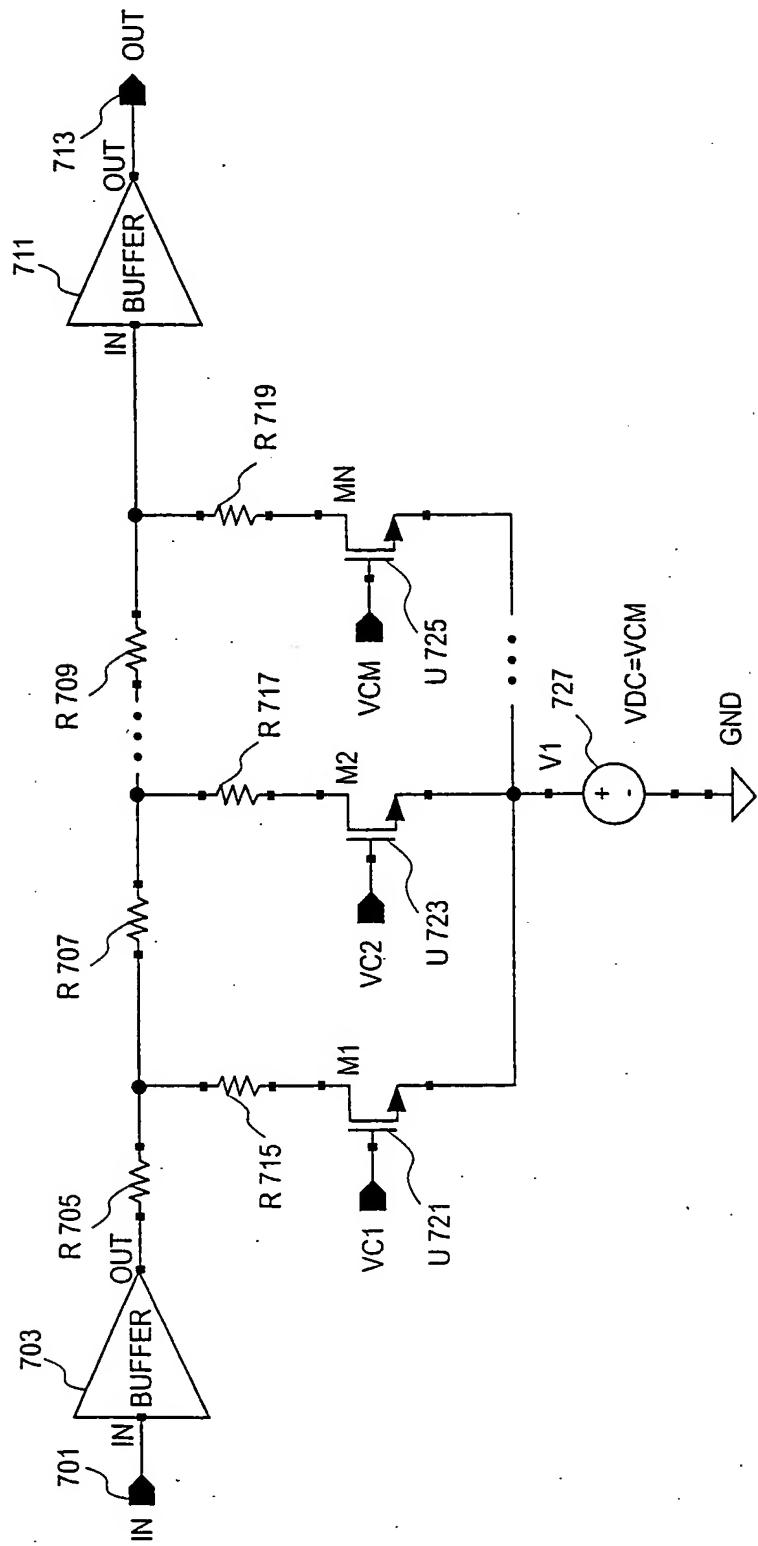
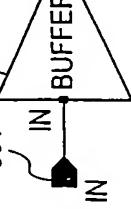


FIG.8

803

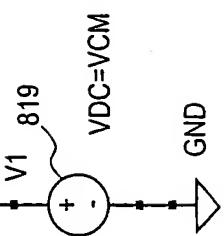
801



N

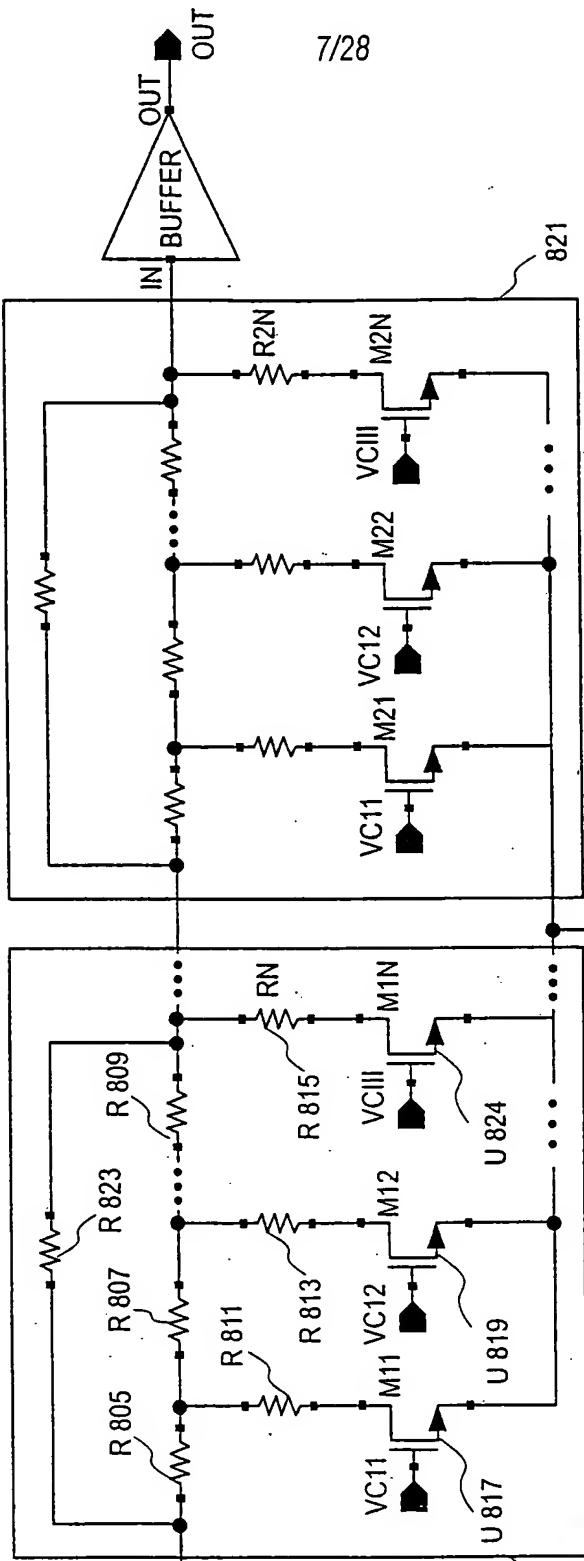
817

J SLICES



GND

N STAGES PER SLICE



821

J SLICES

8/28

FIG. 9
PRIOR ART

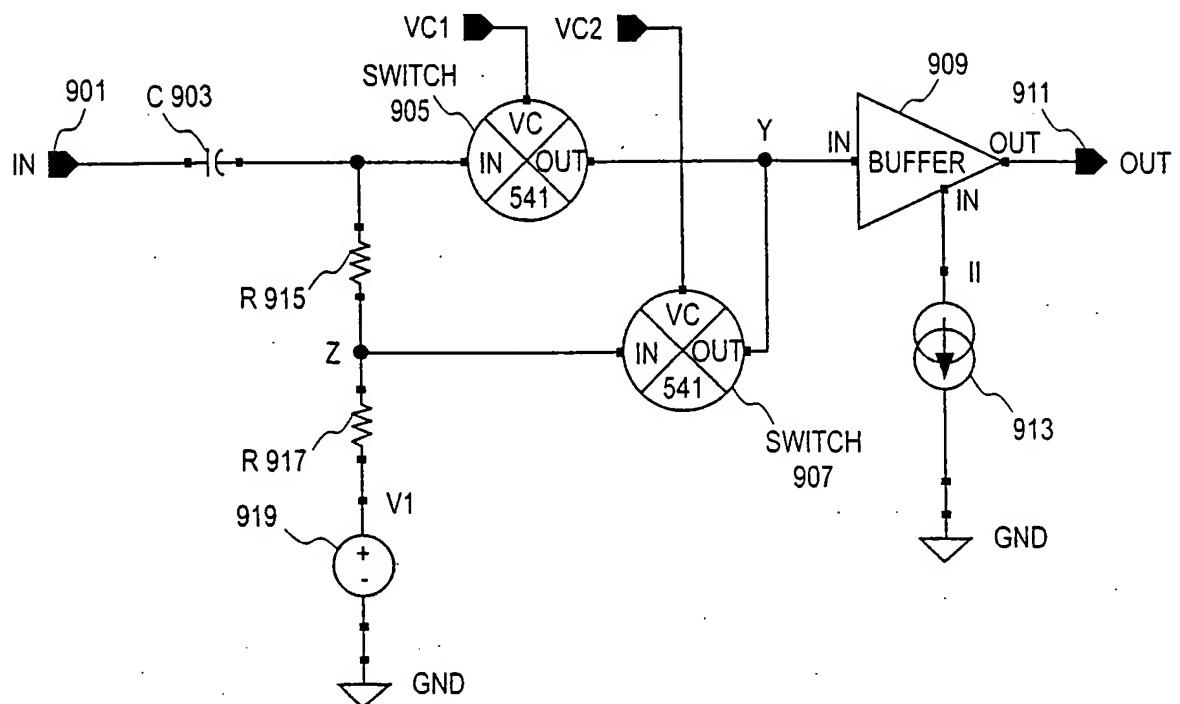


FIG.10
PRIOR ART

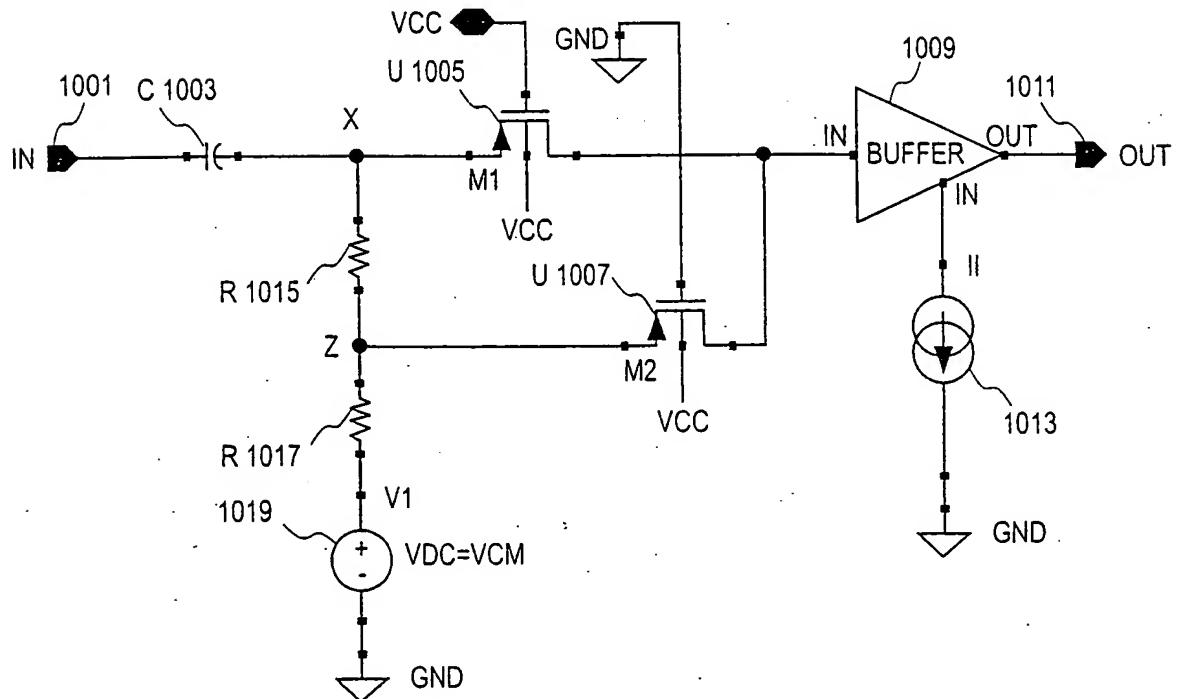
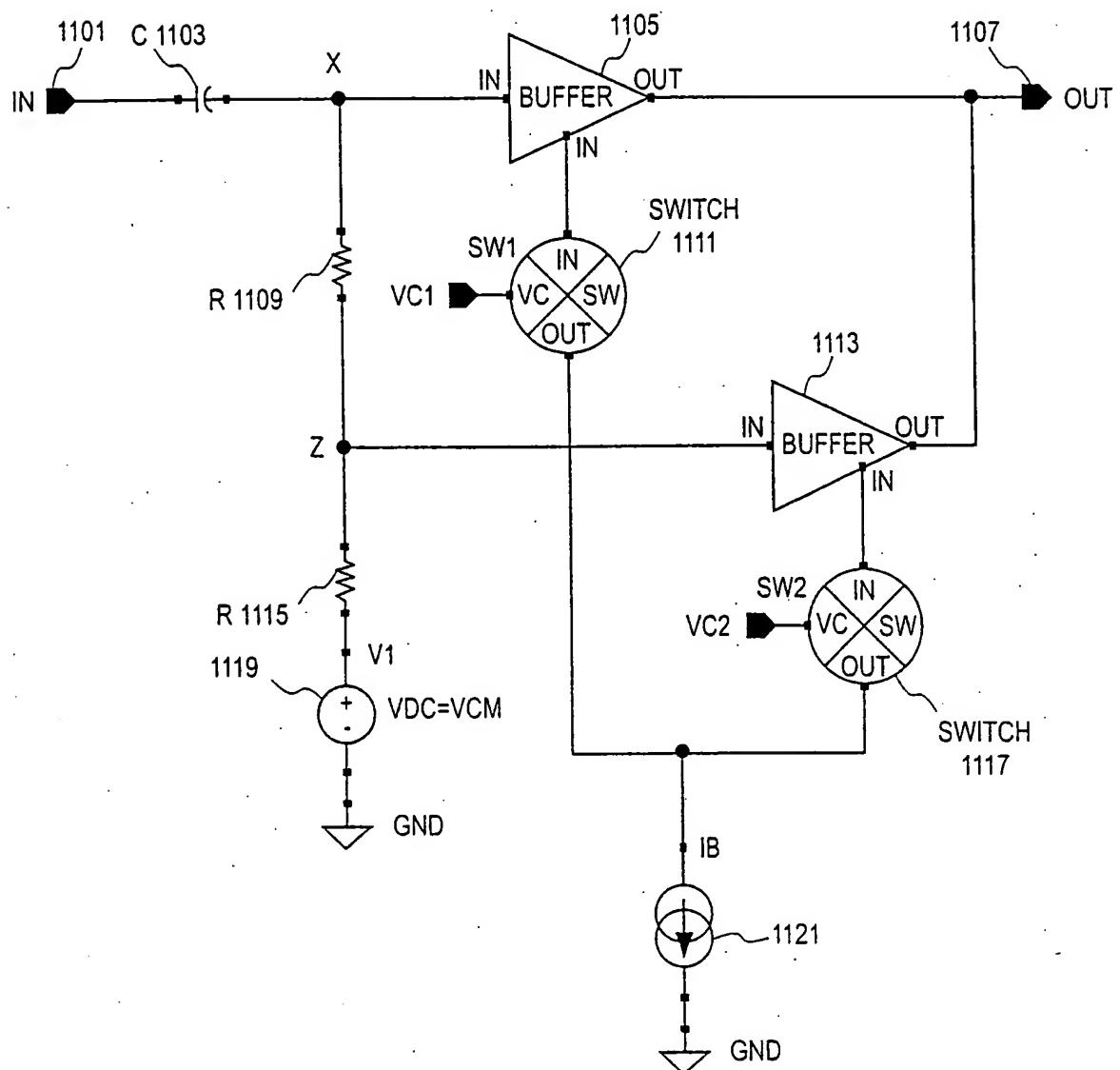
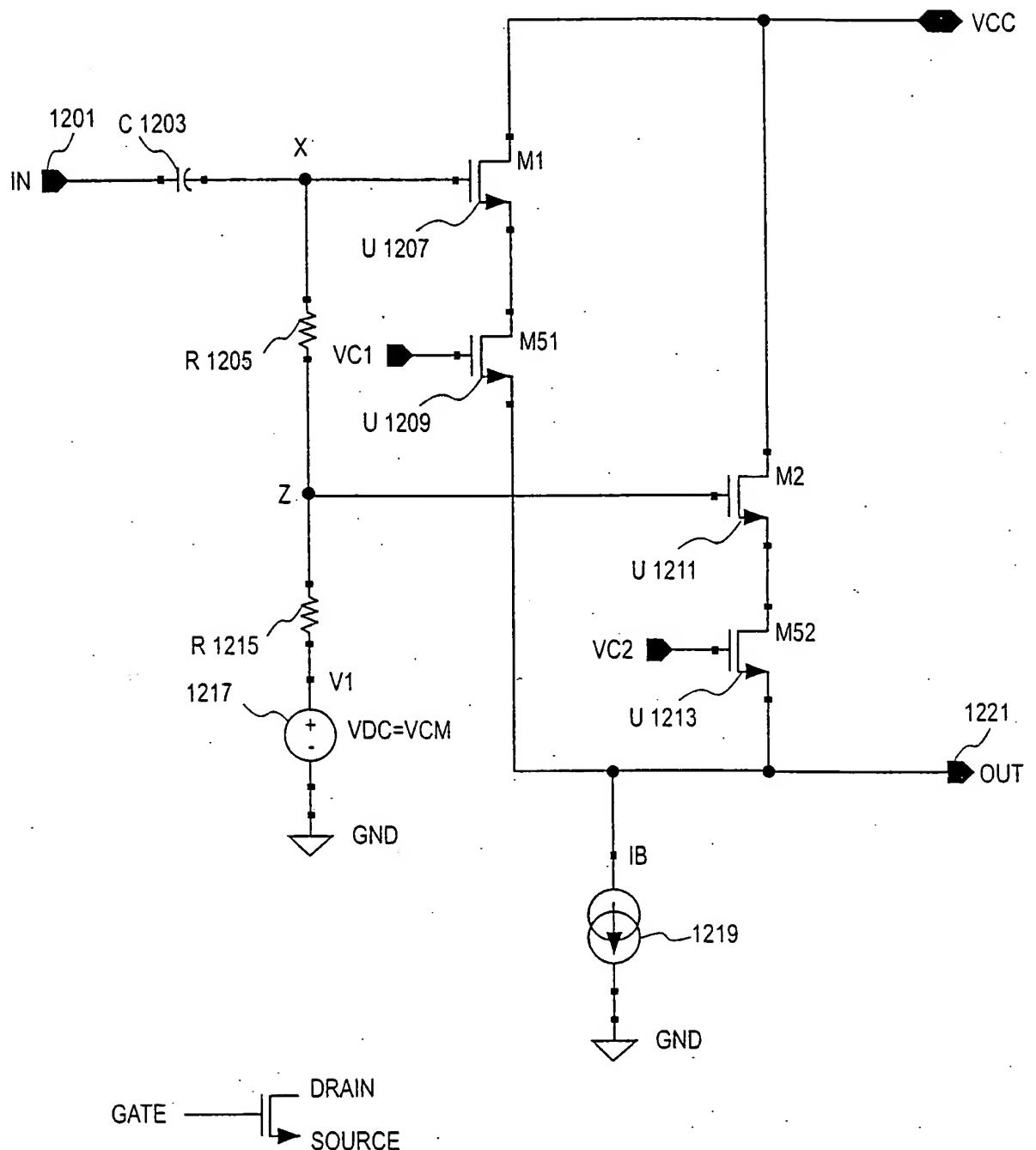


FIG. 11



10/28

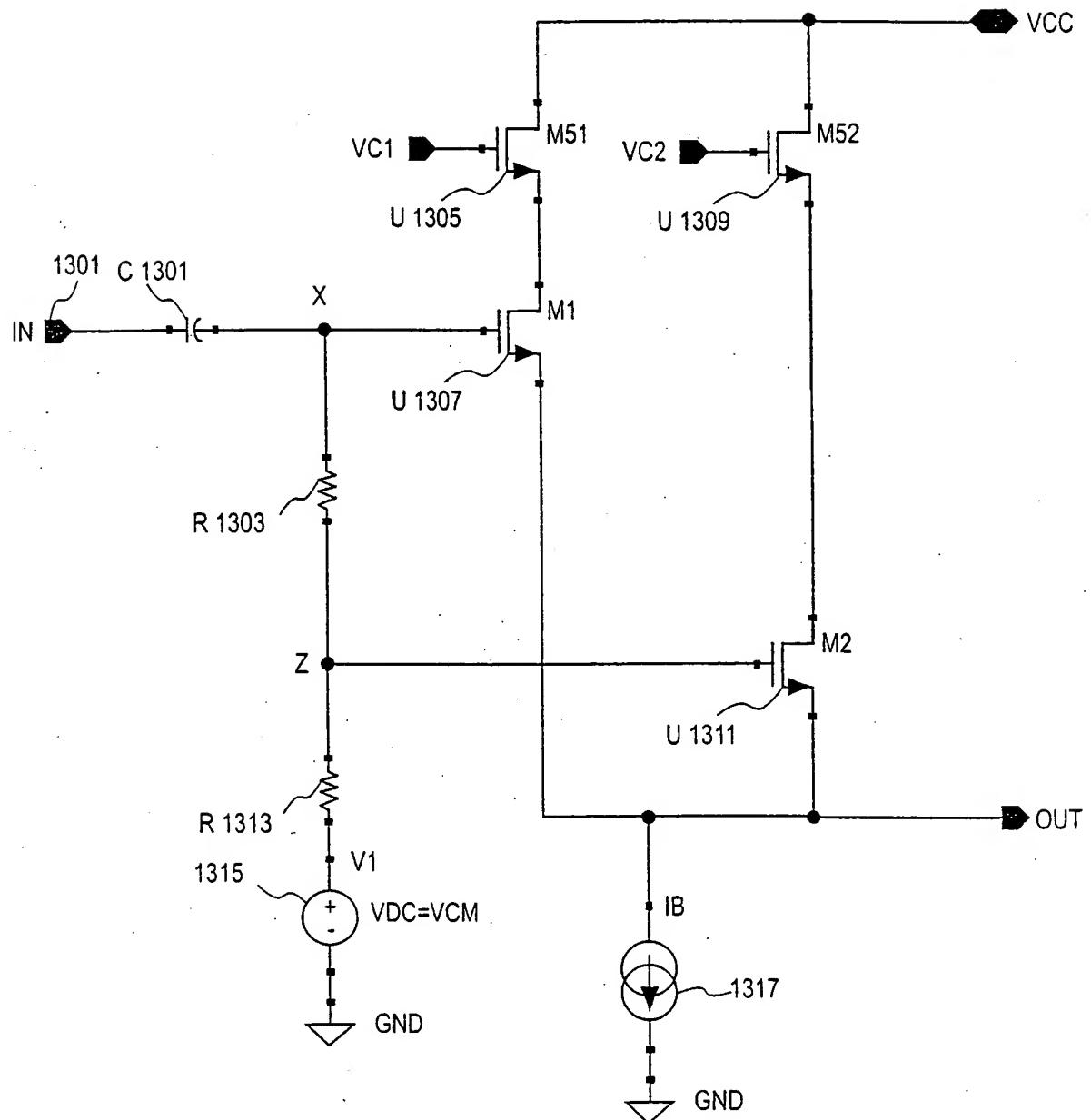
FIG. 12



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11/28

FIG. 13



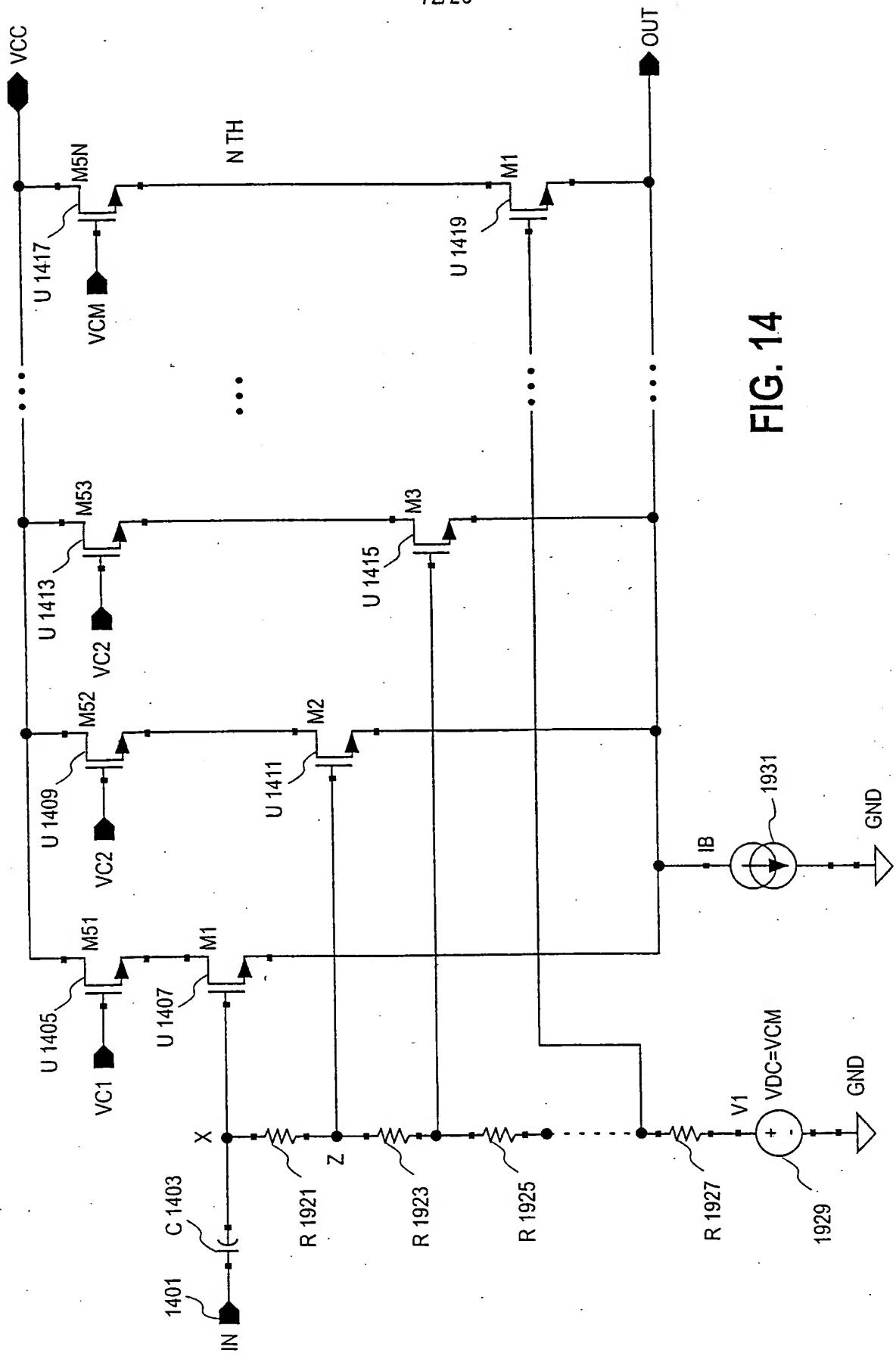


FIG. 14

13/28

FIG. 15

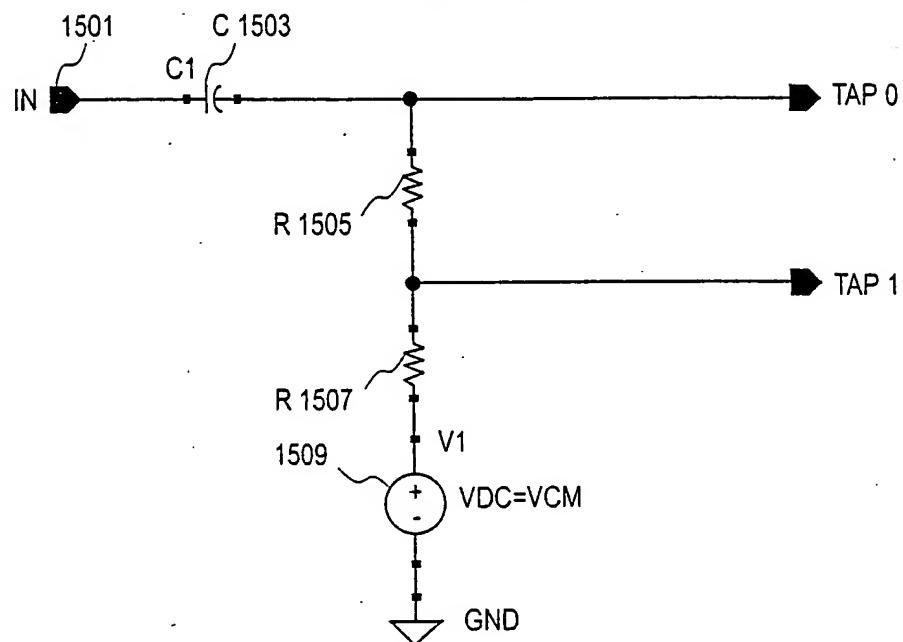
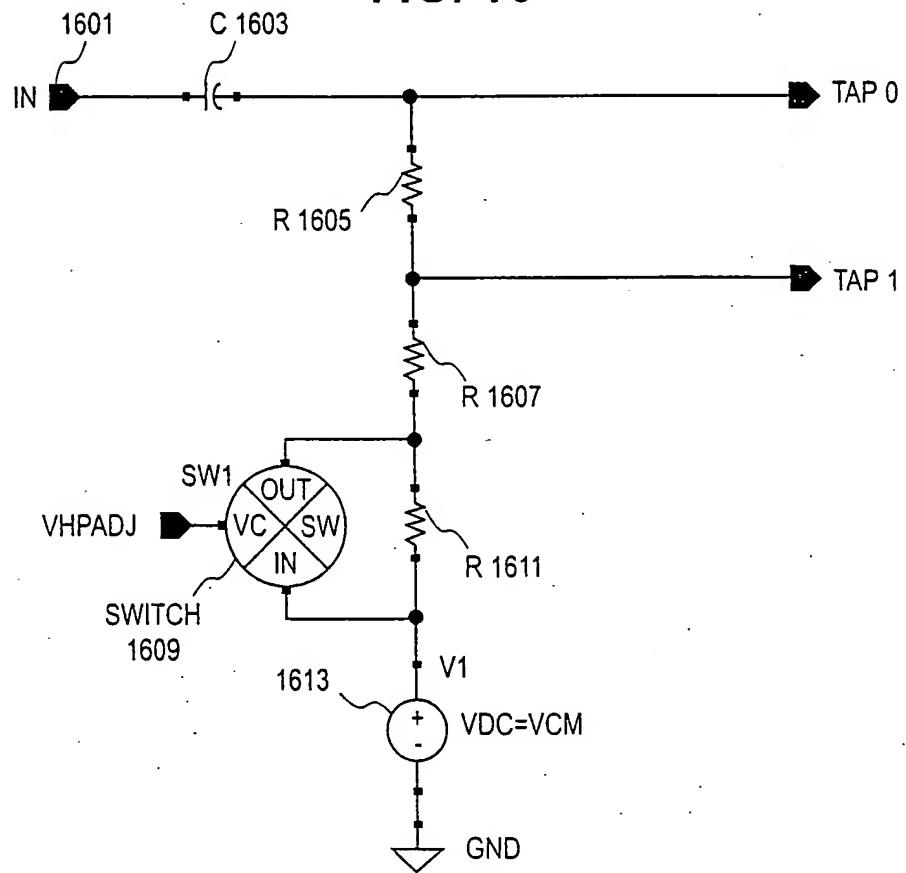


FIG. 16



14/28

FIG. 17

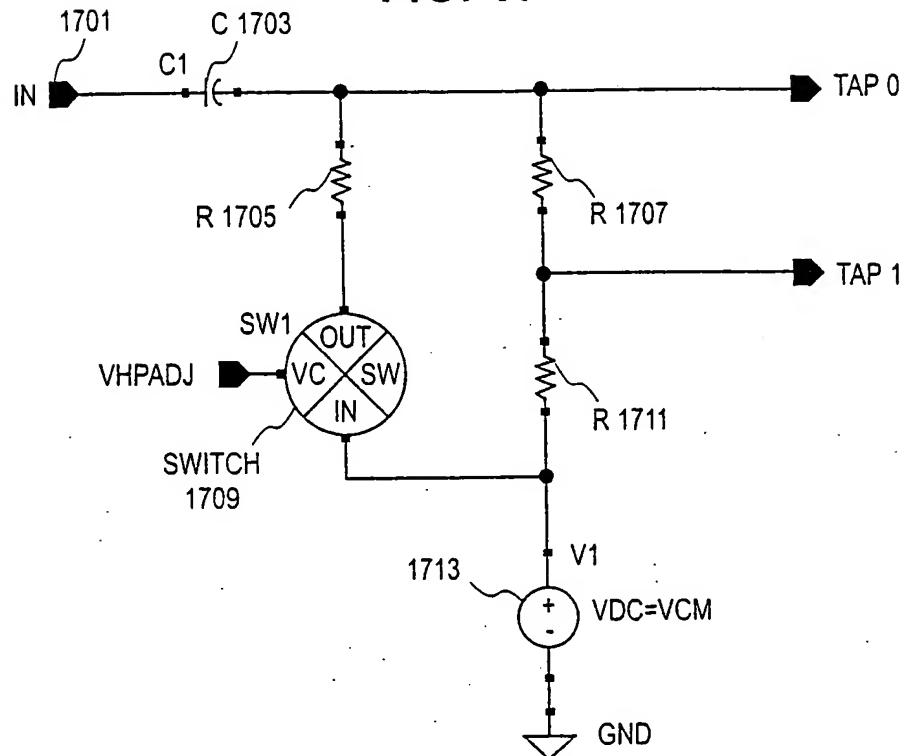


FIG. 18

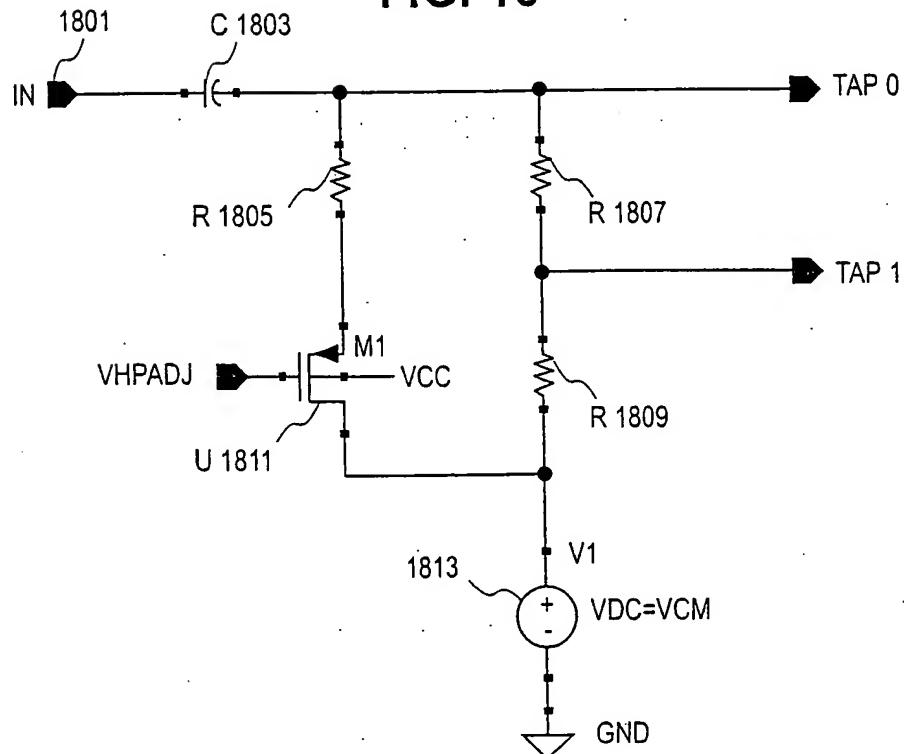


FIG. 19

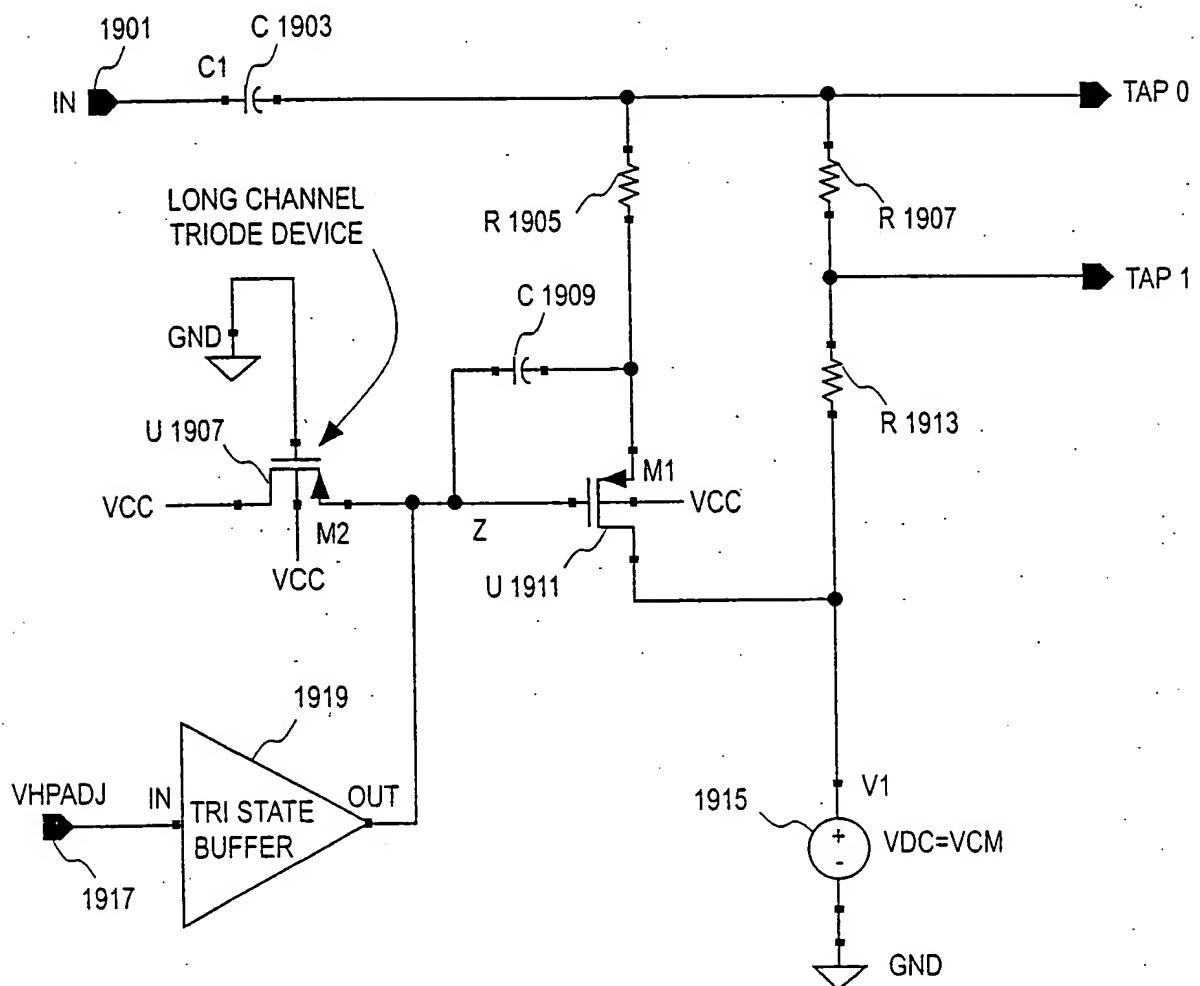


FIG. 20

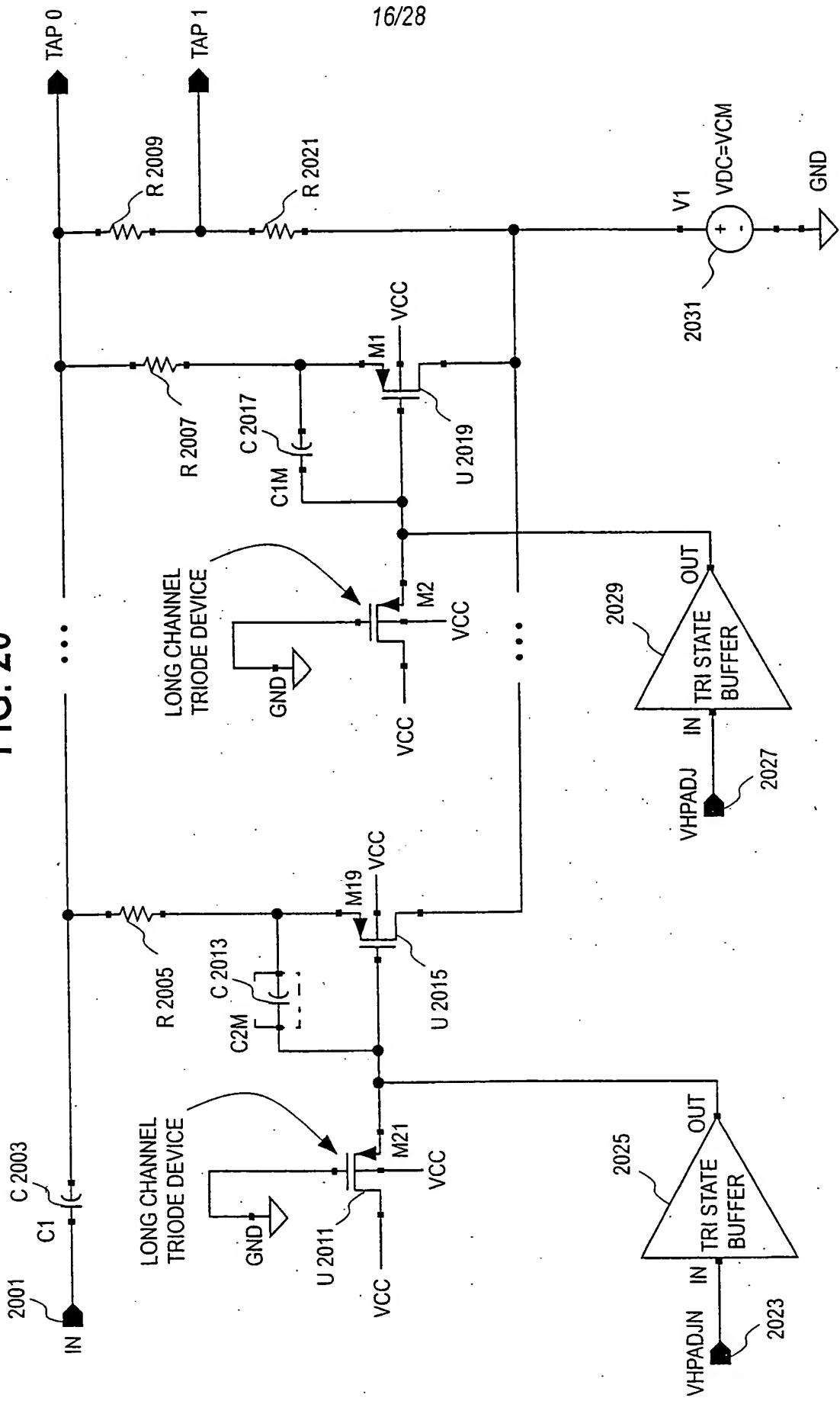


FIG. 21
PRIOR ART

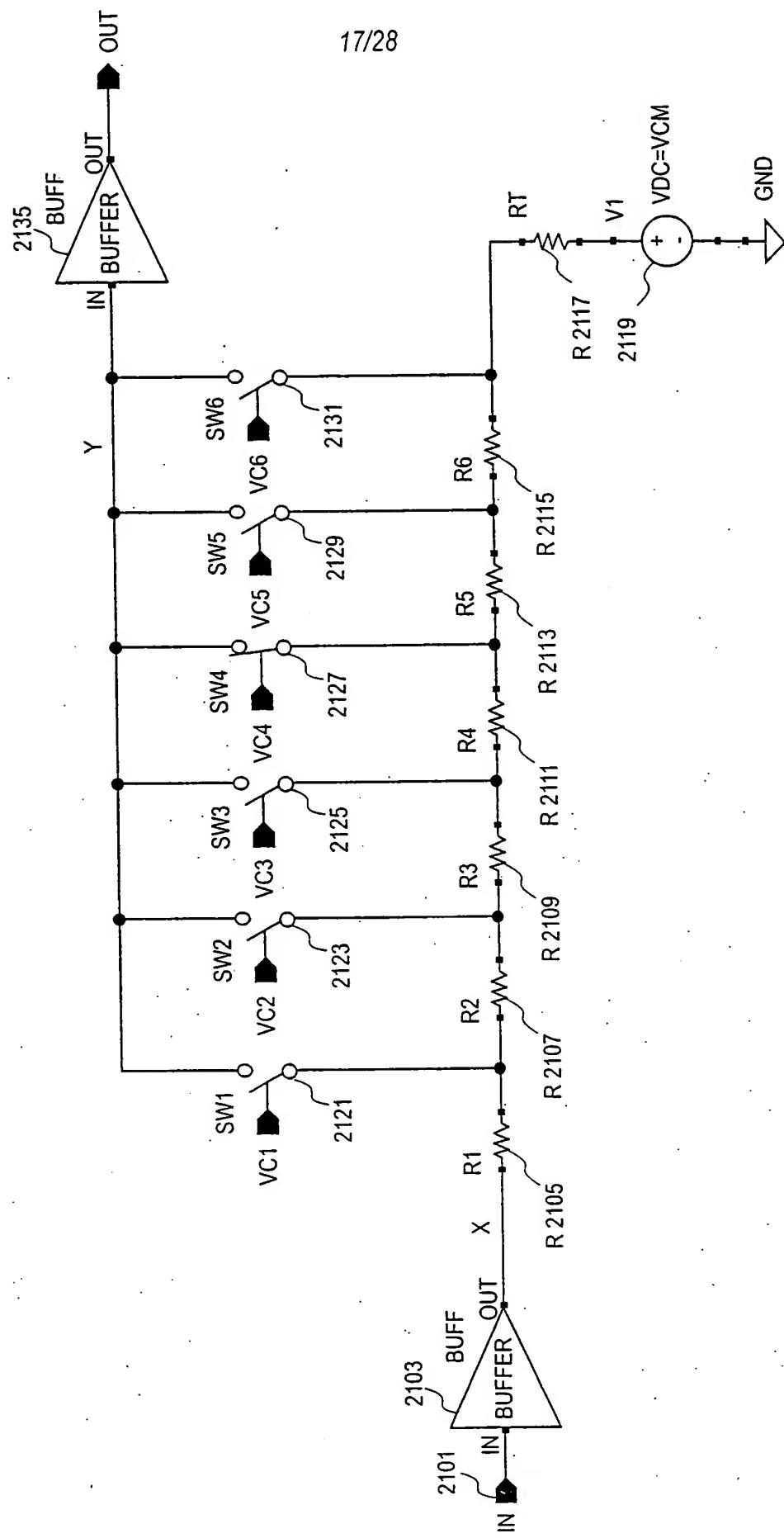


FIG. 22

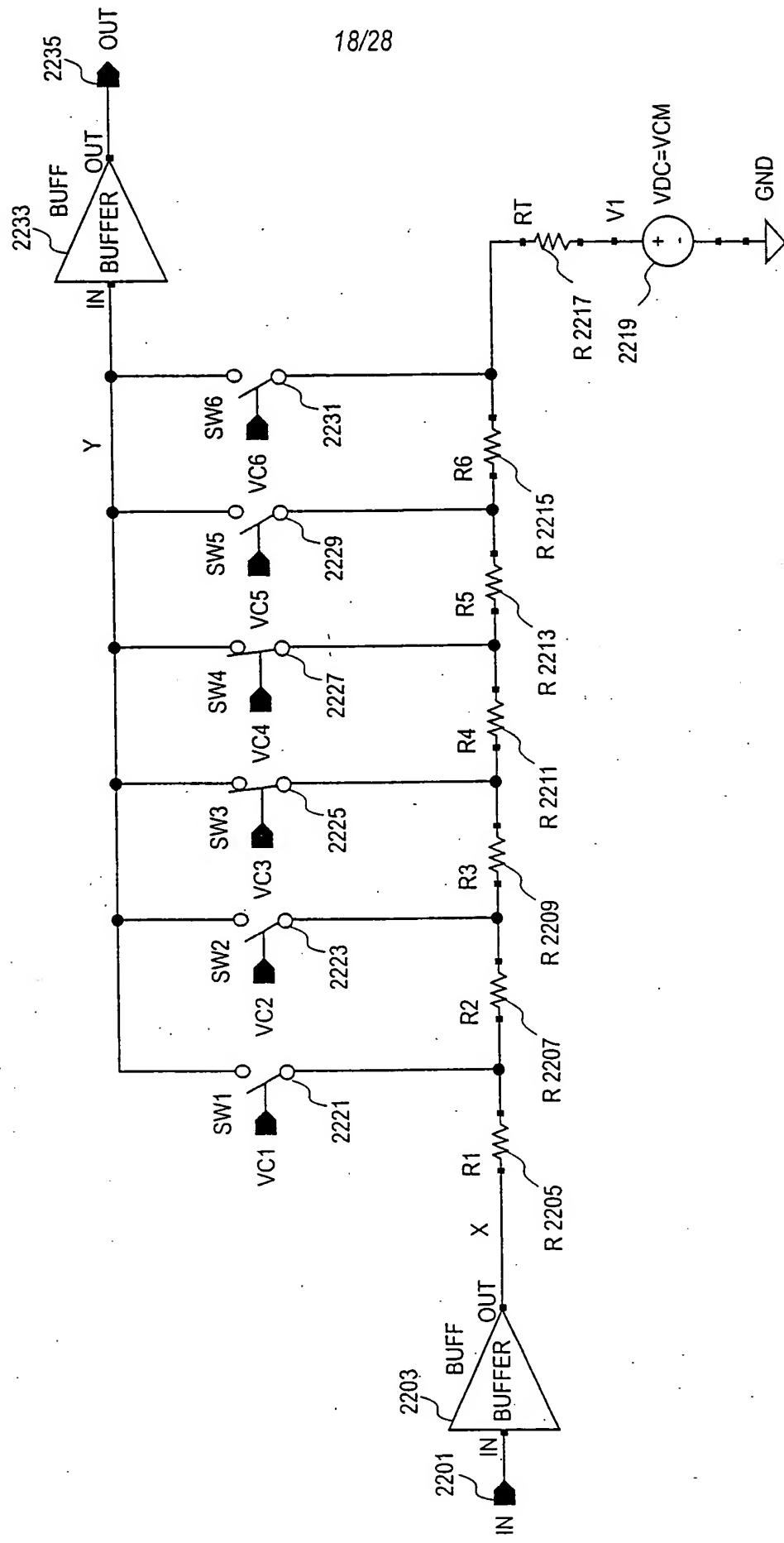
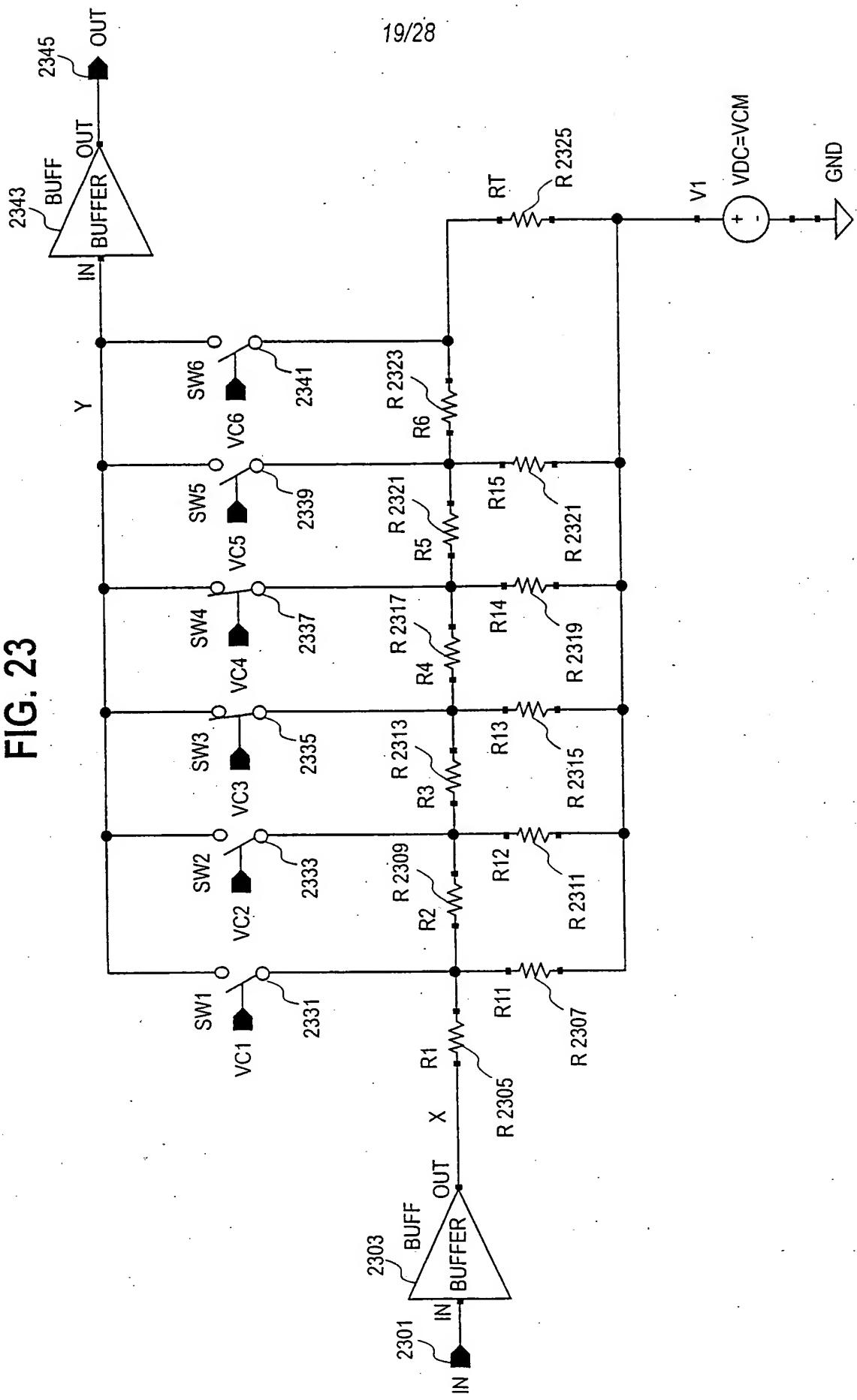


FIG. 23



20/28

FIG. 24

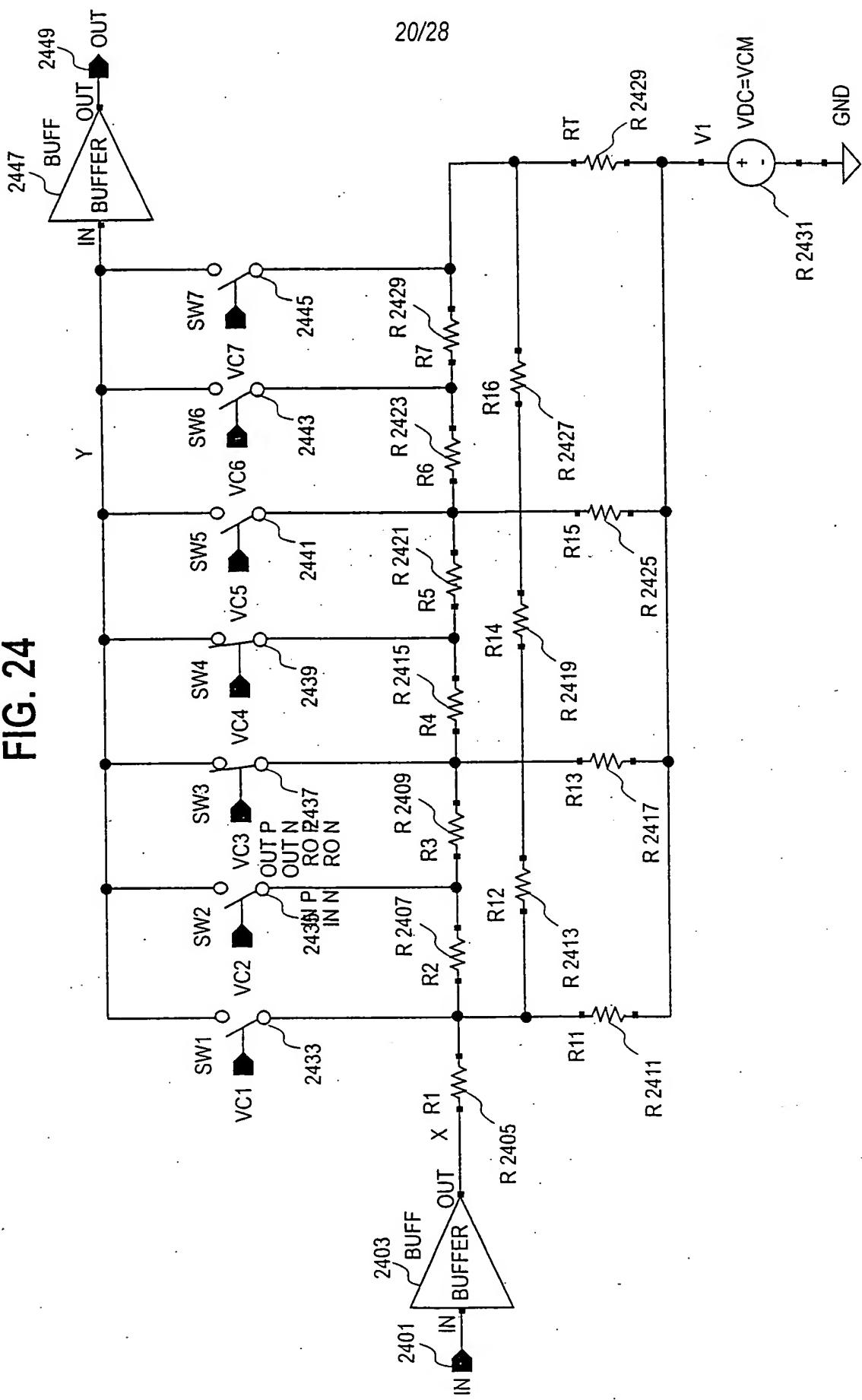


FIG. 25

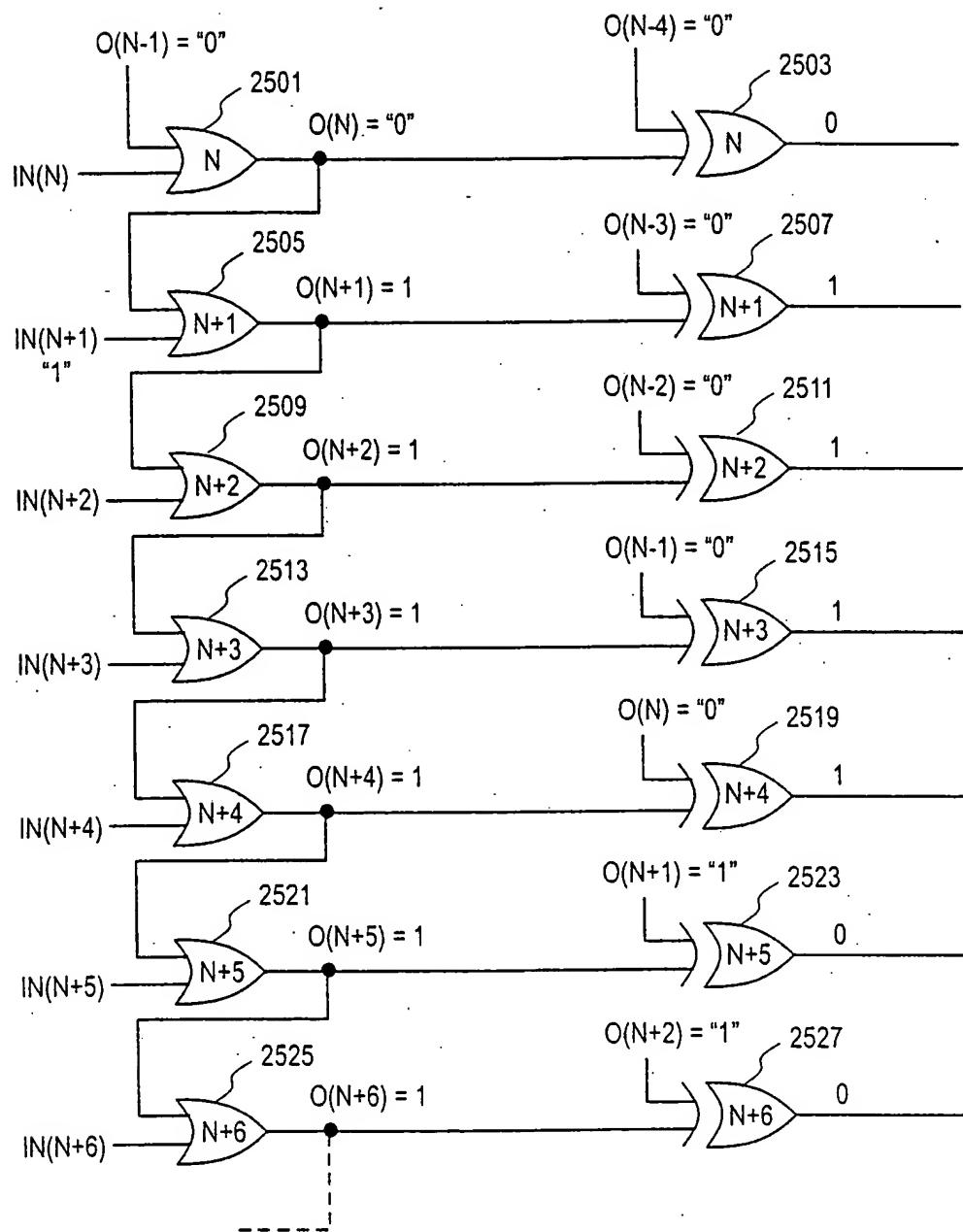
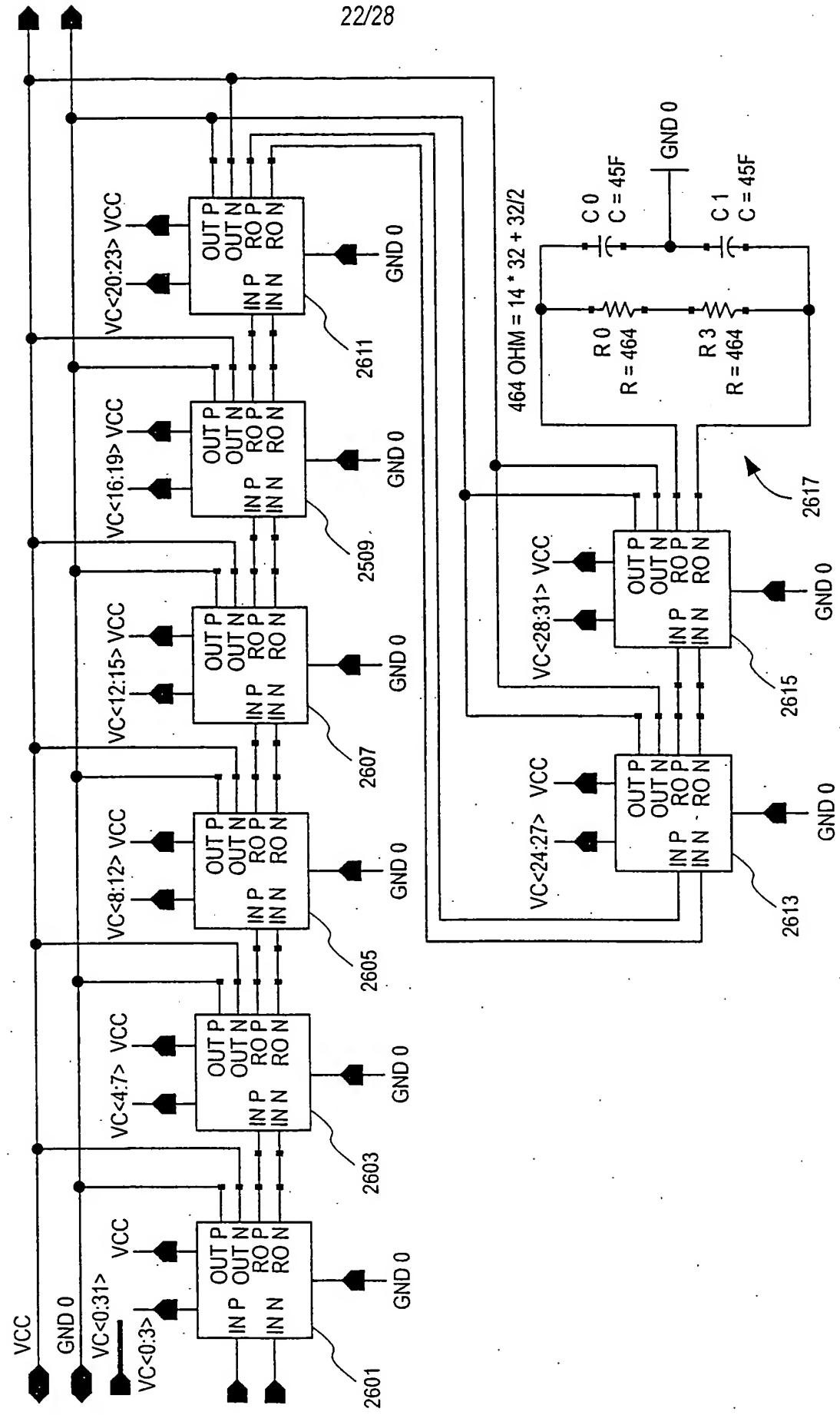


FIG. 26



23/28

FIG. 27

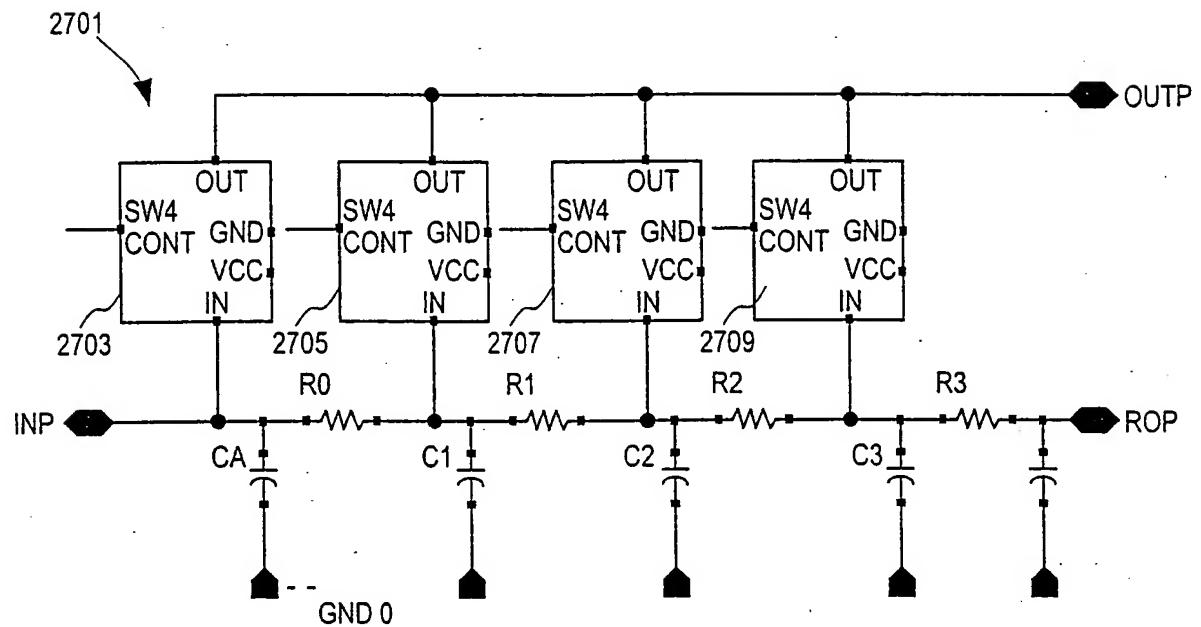
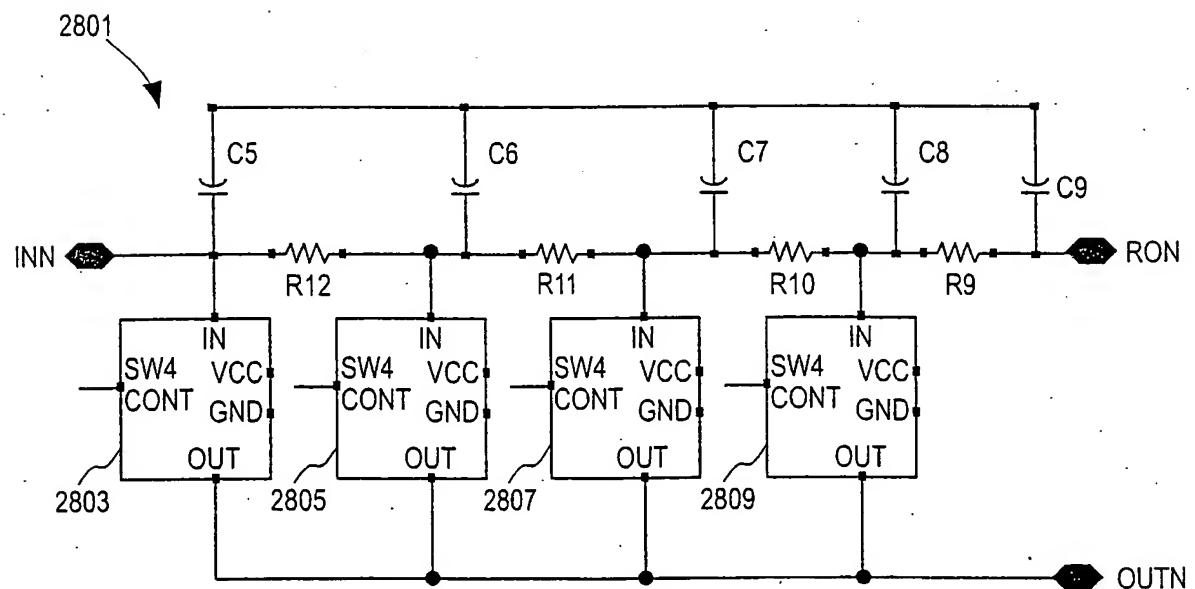


FIG. 28



24/28

FIG. 29

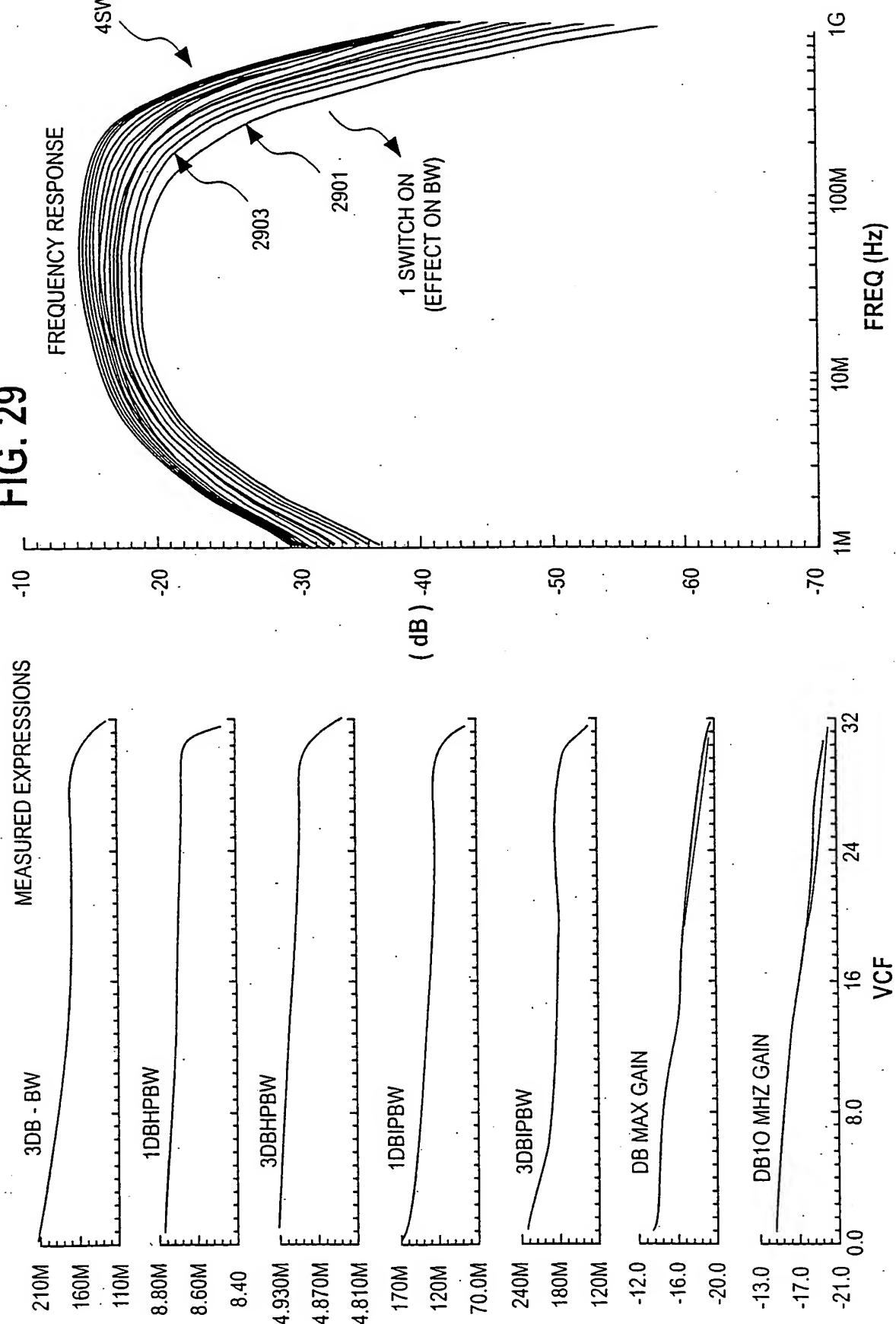
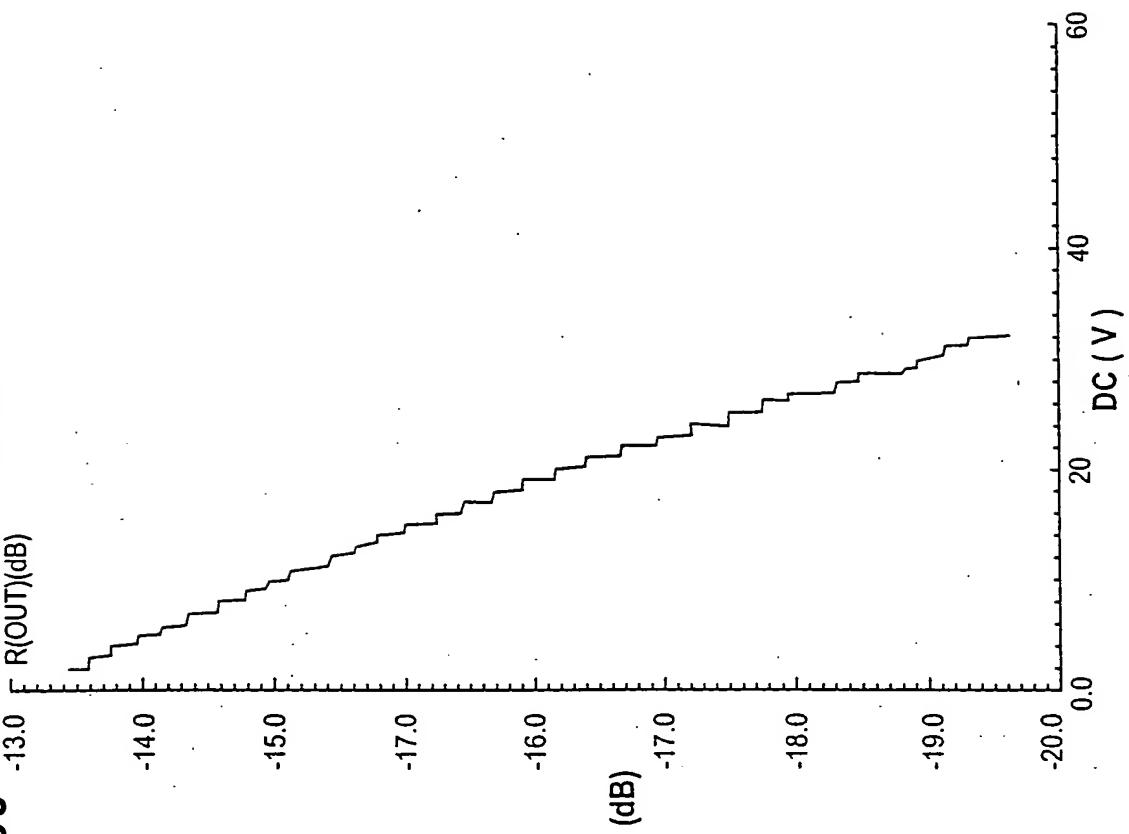


FIG. 30 EXPRESSIONS 2



FIG. 30 EXPRESSIONS 2



26/28

FIG. 31

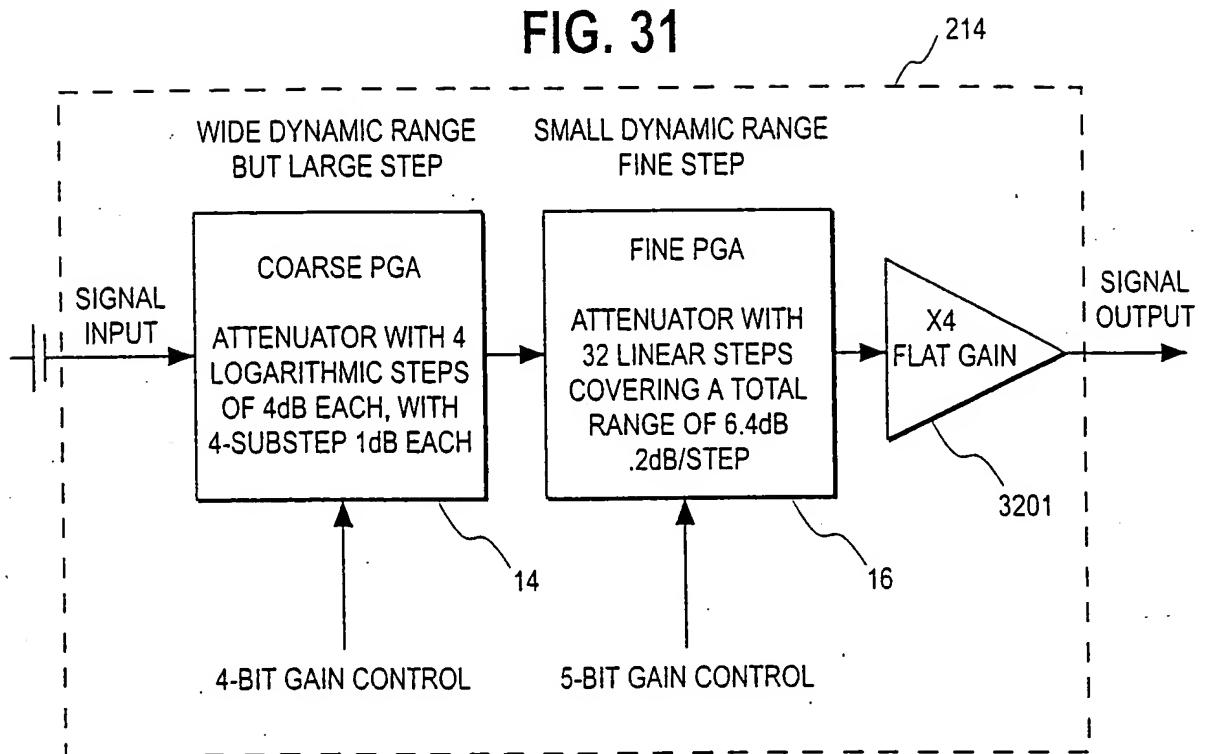


FIG. 32

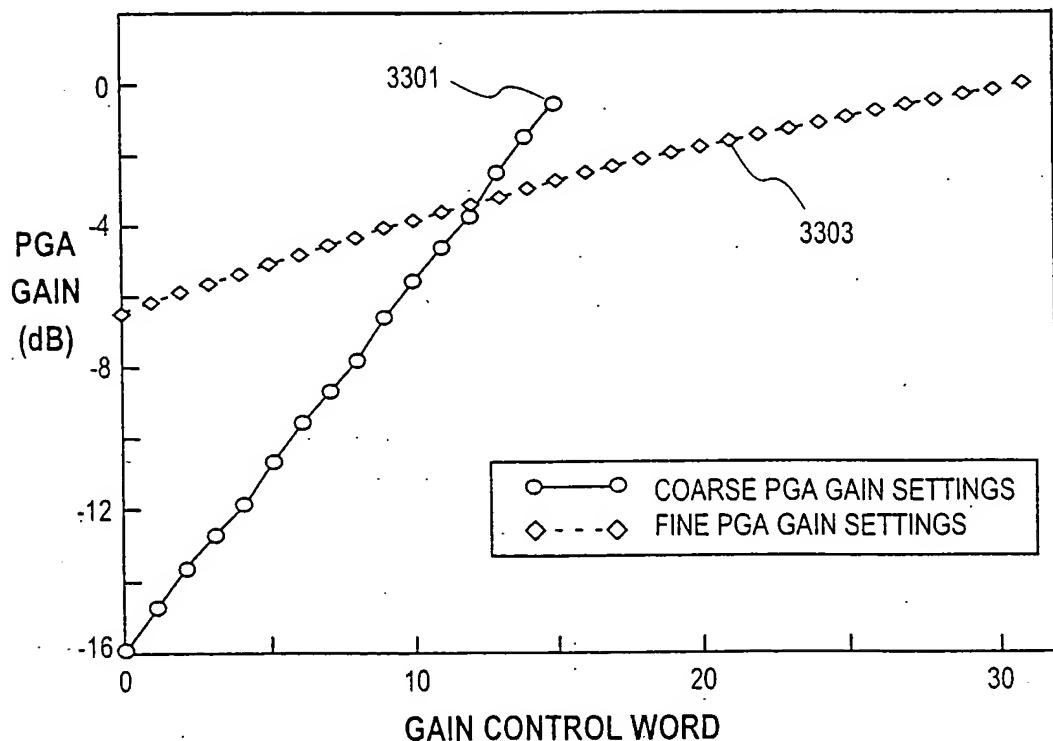
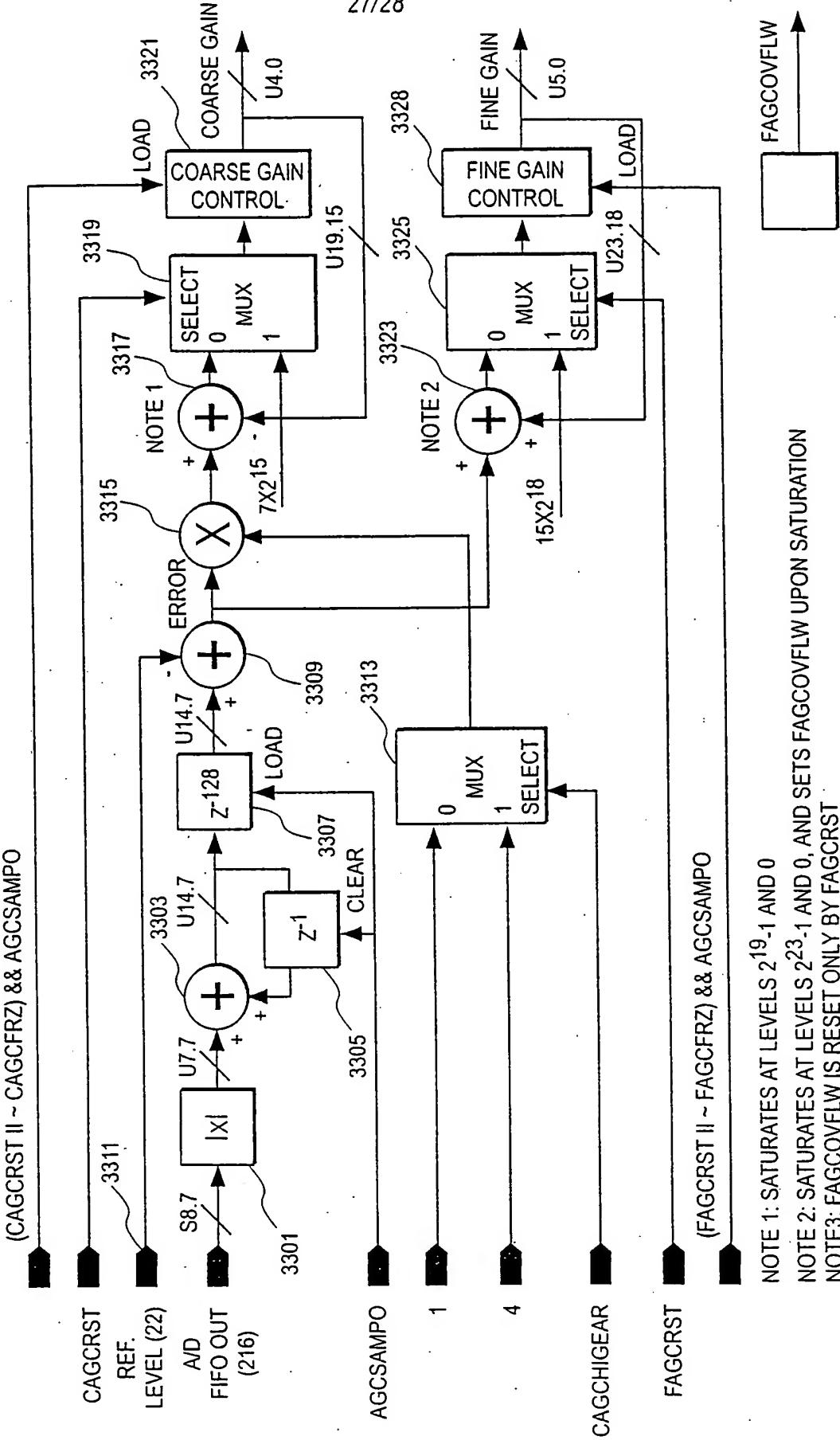


FIG. 33



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28/28

FIG. 34

CABLE LENGTH (m)	100 BASE-TX	GIGABIT, 100 OHM	GIGABIT, 85 OHM	GIGABIT, 115 OHM
0	3.691281	4.193192	4.193192	4.193192
20	3.806628	4.501316	4.362110	4.291369
40	3.877284	4.528136	4.457336	4.429949
60	3.894216	4.733644	4.695307	4.646305
80	4.055372	4.878569	4.847844	4.810019
100	4.225522	4.983545	4.991296	4.968900
120	4.357733	5.134131	5.194401	5.154263
140	4.556012	5.266919	5.380943	5.366309
160	4.764462	-	-	-

$$\begin{aligned} \text{TARGET } E\{|X|\} &= \text{A/D CLIPPING LEVEL X } (E\{|X|\}/\text{RMS}) / (\text{PEAK/RMS}) \\ &= 127 \times 0.7979 / 5.2 = 20 \end{aligned}$$